

MeBr Soil Gas Conc. vs. Time

Broadcast and Drip Treatment at 12" Depth Adjusted for Film Permeability

—◆— Drip Center 12" Depth —■— Tarped Broadcast Center 12" Depth

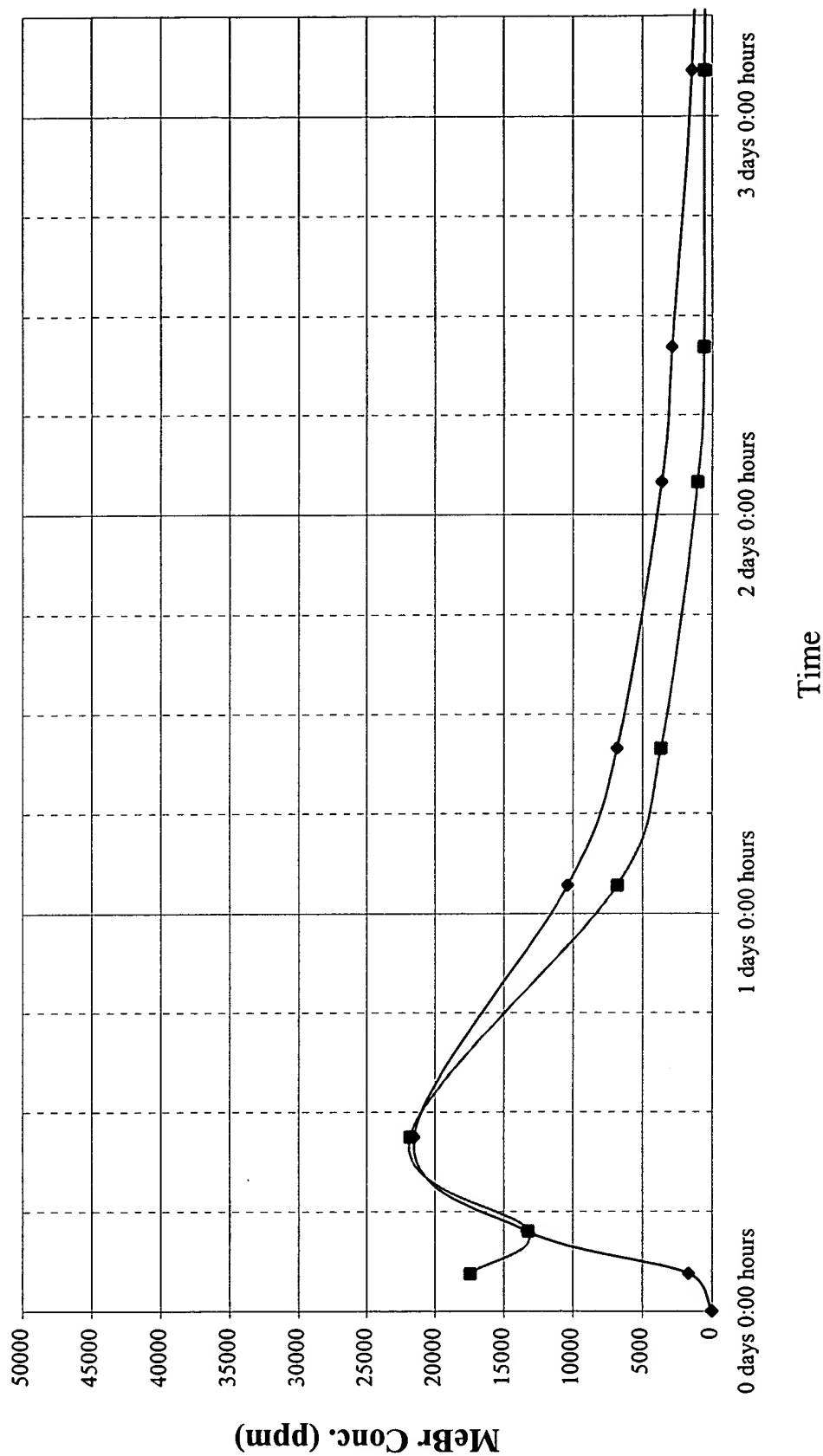


FIG. 1

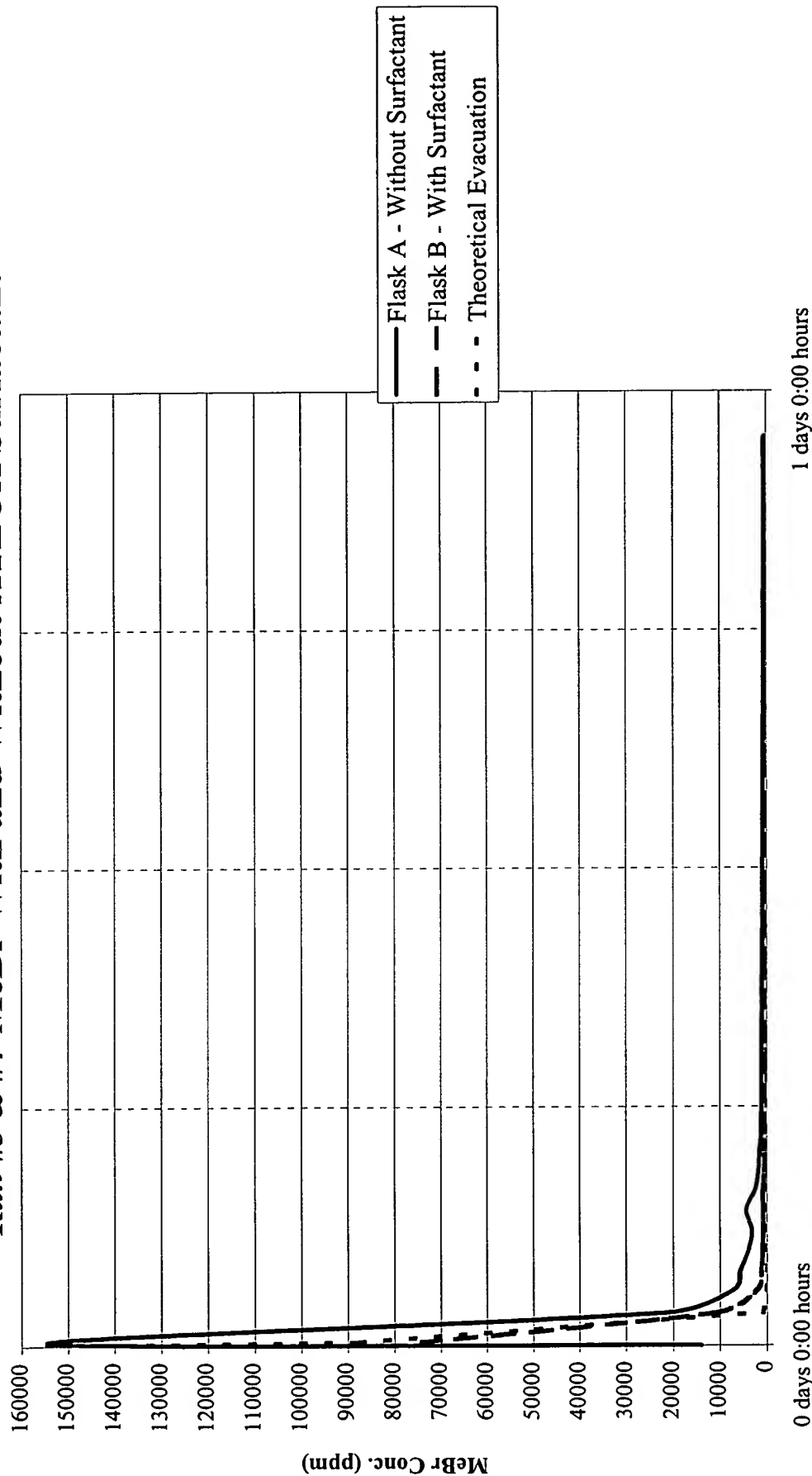
MeBr Headspace Conc. vs. Time
Run #1 MeBr + ATLOX Surfactant + Water



Run #2 MeBr + Water



MeBr Headspace Conc. vs. Time
Run #3 & #4 MeBr With and Without ATLOX Surfactant



Time FLASK A had 2 mL of MeBr added, FLASK B had 0.5 mL added.

FIG. 2c

Treatment of Different Types of Tubing with Chloropicrin Formulation

Tubing Type	Immediate Rx	Wall Thickness After 15 Hours	Elasticity/Strength After 15 Hours	General Appearance Integrity After 15 Hours
Black Seamless Latex	None	No change	Maintained	No effect
FEP Teflon	None	No change	Maintained	No effect
Nalgene 860 Tissue Culture Grade	None	No change	Maintained	Sticky
Manosilt	None	No change	Maintained	No effect
Tygon R3603	None	Reduced thickness	Reduced slightly	Appeared melted
Nalgene 180 Premium PVC	None	Reduced thickness	Reduced slightly	Slightly opaque, appeared melted

FIG. 3

U.S. Forest Service
Nematode Efficacy - Chloropicrin **Drip Application**
of Various EC Percentages
Summary of Results

Nematode Species ^a								
Cylinder #	Root Knot (Meloidogyne)	Dagger (Xiphinema)	Citrus	Pin	Root Knot (Meloidogyne)	Dagger (Xiphinema)	Citrus	Pin
Counts					Adjusted Counts — \$			
1	5	3	168		15	9	504	0
2	22	4	216	28	66	12	648	84
3	1	2	456		3	6	1368	0
4	49		338	9	147	0	1014	27
5	0		7		0	0	21	0
6	23		40	4	69	0	120	12
7	112		80	14	336	0	240	42
8	29		79		87	0	237	0
9	0		114		0	0	342	0
10	16		72		48	0	216	0
11	22		160		66	0	480	0
12	29		87		87	0	261	0
13	115		136		345	0	408	0
14	16		30		48	0	90	0
15	22		31		66	0	93	0
16	79		82		237	0	246	0
17	15		17		45	0	51	0
18	30		81		90	0	243	0
19	69		109		207	0	327	0
20	26		68		78	0	204	0

^a 33% extraction efficiency, measured values multiplied by 3

^b No counts were obtained for *Ring nematode* statistical analysis.

FIG. 4

[illegible]

Treatment Date =	10/28/1999	Number of Seeds/Dish =	100
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
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93			
94			
95			
96			
97			
98			
99			
100			

HIGHLY SIGNIFICANT DIFFERENCE @ 99%

Anova: Single Factor

ANOVA	SS	df	MS	F	P-value	F crit
Source of Variation						
Between Groups	1.3926	6	0.2321	74.6416539	4.547E-13	5.8807827
Within Groups	0.0653	21	0.0031086			
Total	1.4579	27				

FIG. 5a

% Mortality of New Weed Seeds Over Control Pigweed

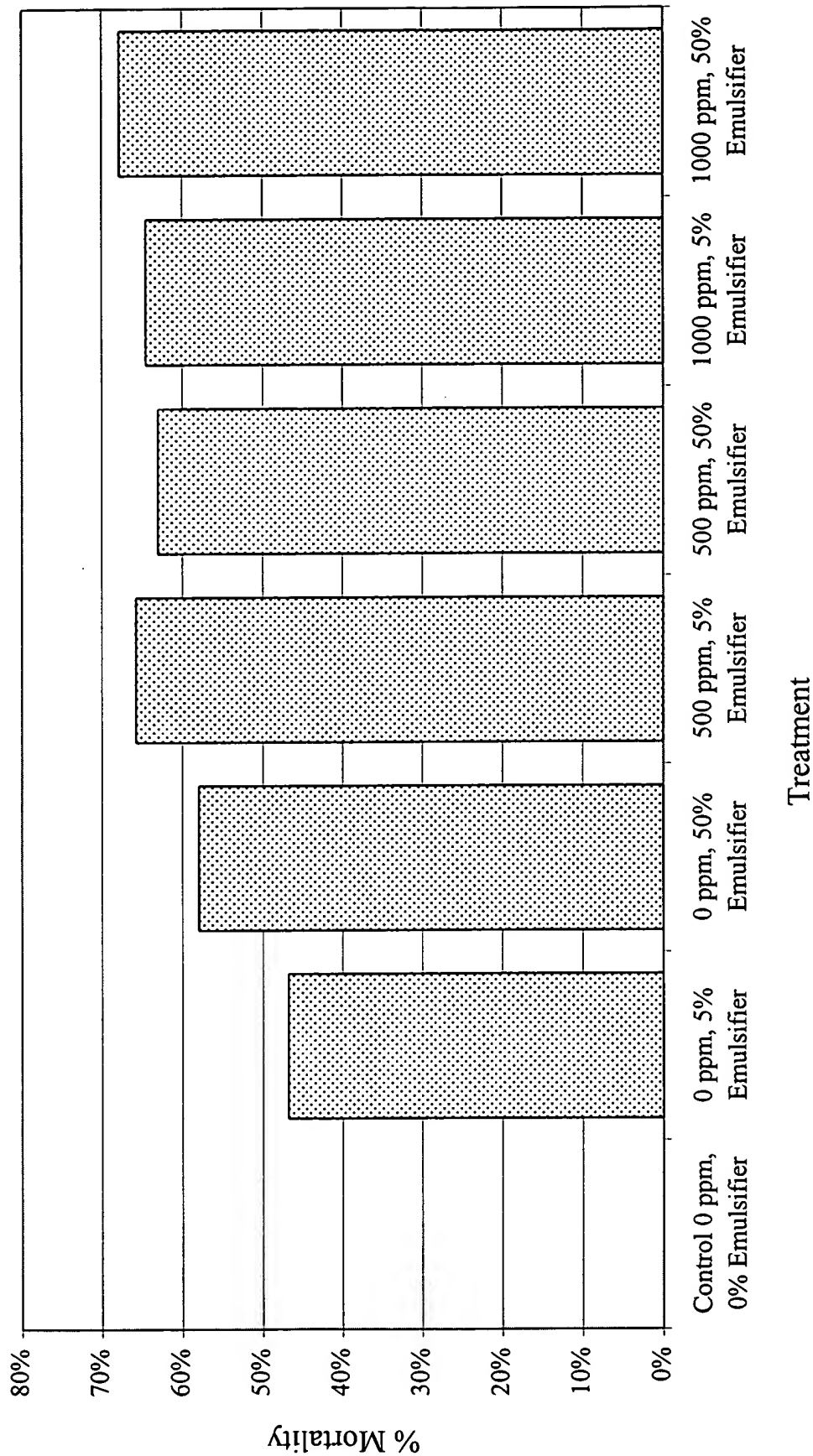


FIG. 5b

Chloropicrin EC - Lab Tests for Weed Seed Mortality
WHITE SWEET
CLOVER

Weed Seed: *Melilotus alba*

Treatment Date = 10/28/1999 Number of Seeds/Dish = 100

Treatment		Seed Germination Counts												(% Mortality)												% Mortality Above Control		
		Date of Count = 11/05/1999 Elapsed Time from Treatment = 8 Days												Date of Count = 11/09/1999 Elapsed Time from Treatment = 12 Days														
		1st Count				2nd Count				1st Count				2nd Count				1st Count at 8 Days				2nd Count at 12 Days						
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Mean	Rep 1	Rep 2	Rep 3	Rep 4	
NEW SEED	Control 0 ppm, 0% Emulsifier	4	11	15	6	4	11	15	6	96%	89%	85%	94%	96%	89%	85%	94%	91%	96%	89%	85%	94%	91%	91%	94%	85%	94%	91%
NEW SEED	0 ppm, 5% Emulsifier	10	7	3	9	10	7	3	9	90%	93%	97%	91%	90%	93%	97%	91%	93%	90%	93%	97%	91%	93%	91%	91%	97%	91%	
NEW SEED	0 ppm, 50% Emulsifier	5	4	7	5	6	4	7	5	95%	96%	93%	95%	94%	96%	93%	95%	95%	94%	96%	93%	95%	95%	95%	94%	95%	95%	
NEW SEED	500 ppm, 5% Emulsifier	5	3	4	1	5	3	6	2	95%	97%	96%	99%	95%	97%	96%	99%	98%	95%	97%	94%	98%	96%	98%	94%	98%	96%	
NEW SEED	500 ppm, 50% Emulsifier	5	2	1	2	7	2	1	5	95%	98%	99%	98%	93%	98%	99%	98%	98%	93%	98%	99%	95%	96%	95%	99%	99%	95%	
NEW SEED	1000 ppm, 5% Emulsifier	1	2	3	0	1	4	3	0	99%	98%	97%	100%	99%	98%	97%	100%	99%	99%	96%	97%	100%	98%	100%	97%	100%	98%	
NEW SEED	1000 ppm, 50% Emulsifier	0	2	0	3	0	13	1	5	100%	98%	100%	97%	99%	98%	100%	97%	99%	100%	87%	99%	93%	95%	99%	99%	93%	95%	
OLD SEED	Control 0 ppm, 0% Emulsifier	15	11	4	9	30	25	11	27	85%	89%	96%	91%	70%	75%	89%	73%	90%	70%	75%	89%	73%	77%	77%	73%	89%	-3%	
OLD SEED	0 ppm, 5% Emulsifier	5	7	24	33	8	8	26	39	95%	93%	76%	67%	92%	92%	74%	61%	83%	92%	92%	74%	61%	80%	80%	74%	61%	0%	
OLD SEED	0 ppm, 50% Emulsifier	4	10	13	18	6	12	24	27	96%	90%	87%	82%	94%	88%	76%	73%	89%	94%	88%	76%	73%	83%	83%	76%	73%	3%	
OLD SEED	500 ppm, 5% Emulsifier	7	2	3	9	7	2	5	14	93%	98%	97%	91%	93%	98%	95%	86%	95%	93%	98%	95%	86%	93%	93%	95%	86%	13%	
OLD SEED	500 ppm, 50% Emulsifier	11	7	3	5	25	15	6	9	89%	93%	97%	95%	75%	85%	94%	91%	94%	75%	85%	94%	91%	86%	86%	94%	91%	7%	
OLD SEED	1000 ppm, 5% Emulsifier	23	3	0	12	23	3	0	12	77%	97%	100%	88%	77%	97%	100%	88%	91%	77%	97%	100%	88%	91%	91%	88%	97%	11%	
OLD SEED	1000 ppm, 50% Emulsifier	0	12	3	16	0	18	4	26	100%	88%	97%	84%	100%	82%	96%	74%	92%	100%	82%	96%	74%	88%	88%	74%	88%	8%	

NEW SEED

Anova: Single Factor

Groups	Count	Sum	Average	Variance
Row 1	4	3.84	0.96	0.00248687
Row 2	4	3.71	0.9275	0.00095833
Row 3	4	3.78	0.945	0.00018687
Row 4	4	3.84	0.96	0.00033333
Row 5	4	3.85	0.9625	0.00075833
Row 6	4	3.92	0.98	0.00033333
Row 7	4	3.81	0.9525	0.00049187

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0130857	6	0.002181	1.78431829	0.1489903	2.5727116
Within Groups	0.025525	21	0.0012155			
Total	0.0386107	27				

OLD SEED

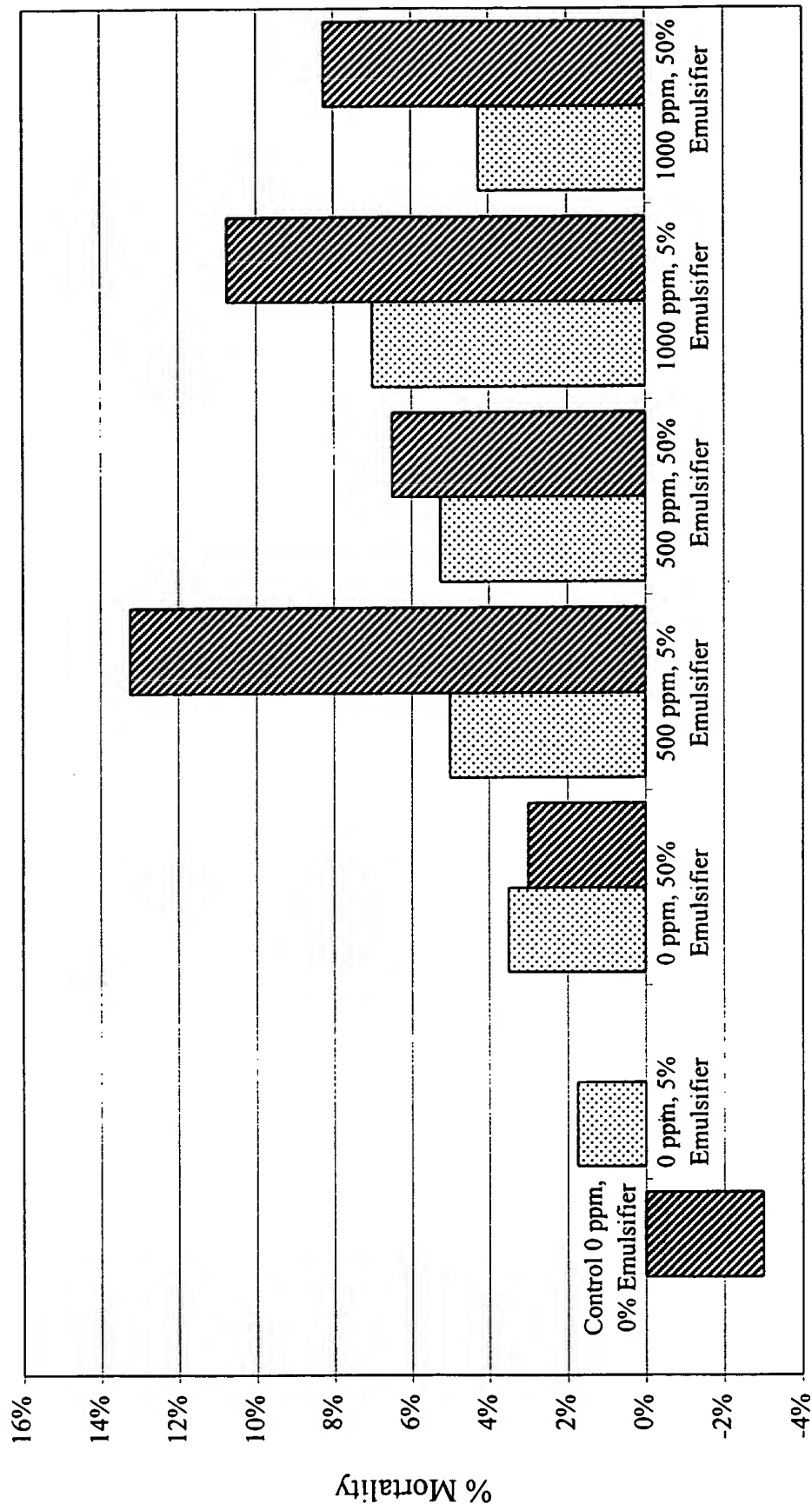
Anova: Single Factor

Groups	Count	Sum	Average	Variance
Row 1	4	3.07	0.7675	0.007081867
Row 2	4	3.18	0.7975	0.022825
Row 3	4	3.31	0.8275	0.006825
Row 4	4	3.72	0.93	0.0028
Row 5	4	3.45	0.8625	0.007025
Row 6	4	3.62	0.905	0.0107
Row 7	4	3.52	0.88	0.01468687

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.081971	6	0.013662	1.276881017	0.30875	2.572712
Within Groups	0.2242	21	0.010676			
Total	0.306171	27				

FIG. 6a

% Mortality of New Weed Seeds Over Control White Sweet Clover



Treatment

FIG. 6b

Chloropicrin EC - Lab Tests for Weed Seed Mortality
WILD MUSTARD

Weed Seed: <i>Brassica kaber</i>		Treatment Date = 10/28/1999				Number of Seeds/Dish = 100			
		Seed Germination Counts				Date of Count = 11/09/1999			
		Elapsed Time from Treatment = 8 Days				Elapsed Time from Treatment = 12 Days			
Seed Age	Treatment Solution	1st Count				2nd Count			
		Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4
NEW SEED	Control 0 ppm, 0% Emulsifier	35	38	40	33	60	51	49	54
NEW SEED	0 ppm, 5% Emulsifier	34	29	32	28	80	78	75	79
NEW SEED	0 ppm, 50% Emulsifier	28	31	29	32	81	77	70	82
NEW SEED	500 ppm, 5% Emulsifier	34	16	35	36	82	72	91	88
NEW SEED	500 ppm, 50% Emulsifier	40	26	10	24	83	76	80	85
NEW SEED	1000 ppm, 5% Emulsifier	30	31	18	22	81	80	70	76
NEW SEED	1000 ppm, 50% Emulsifier	31	11	3	41	36	13	12	41
Date of Count = 11/08/1999									
Elapsed Time from Treatment = 11 Days									
OLD SEED	Control 0 ppm, 0% Emulsifier	0	1	0	1	0	1	0	1
OLD SEED	0 ppm, 5% Emulsifier	2	2	0	1	2	2	0	1
OLD SEED	0 ppm, 50% Emulsifier	1	0	0	1	1	0	0	1
OLD SEED	500 ppm, 5% Emulsifier	2	0	0	0	2	0	0	0
OLD SEED	500 ppm, 50% Emulsifier	3	2	3	0	3	2	3	0
OLD SEED	1000 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0
OLD SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0

NEW SEED

Anova: Single Factor

SIGNIFICANT DIFFERENCE @ 95%

SUMMARY				
Groups	Count	Sum	Average	Variance
Row 1	4	1.88	0.465	0.0023
Row 2	4	0.88	0.22	0.000466667
Row 3	4	0.9	0.225	0.002966667
Row 4	4	0.87	0.1675	0.007025
Row 5	4	0.78	0.19	0.001533333
Row 6	4	0.93	0.2325	0.002491667
Row 7	4	2.98	0.745	0.022966667

ANOVA

Source of Variation					
Between Groups	SS	df	MS	F	P-value
Within Groups	1.0739357	6	0.1789893	31.52012578	1.866E-09
Total	1.1813357	27			

OLD SEED

Anova: Single Factor

SIGNIFICANT DIFFERENCE @ 95%

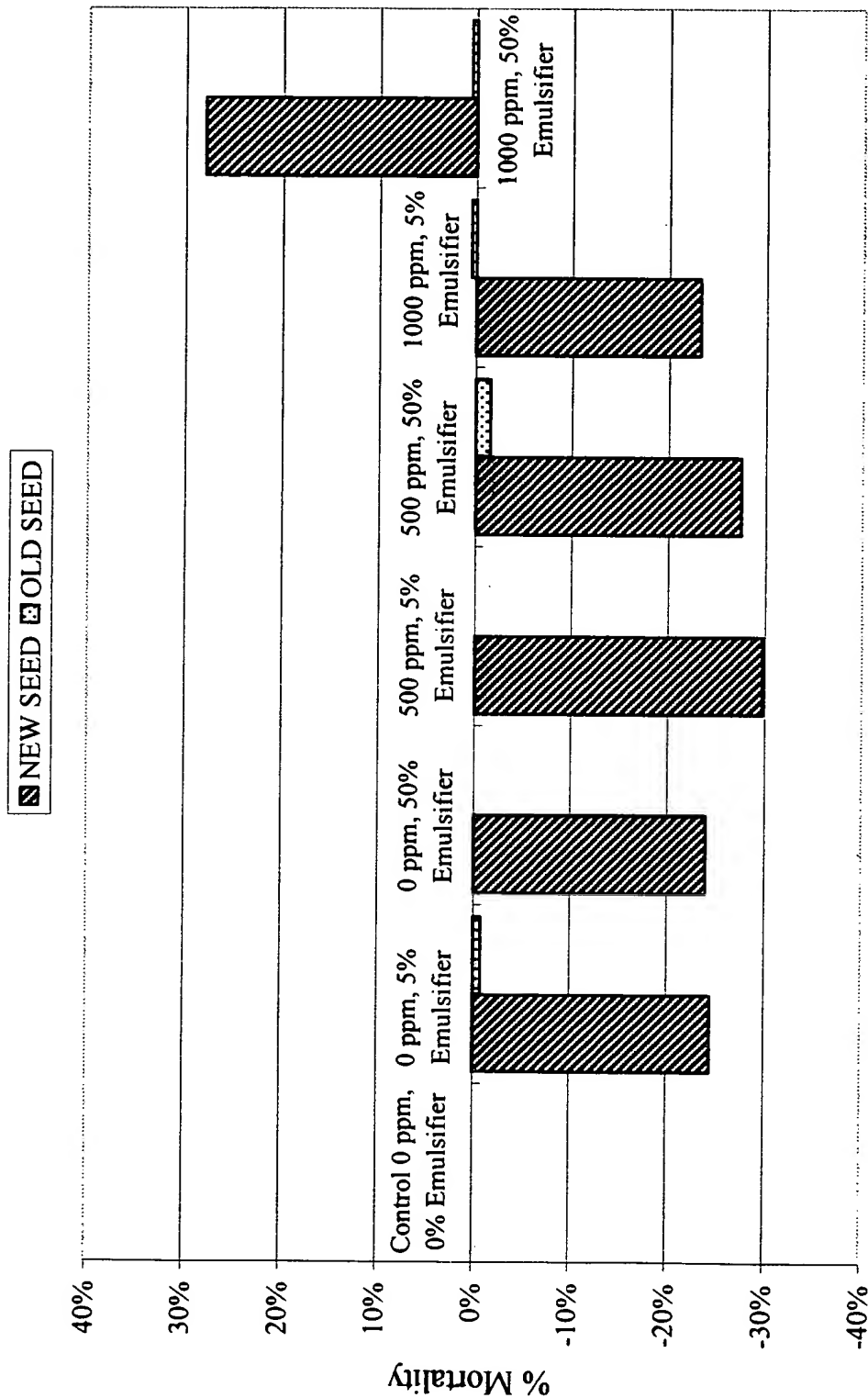
SUMMARY				
Groups	Count	Sum	Average	Variance
Row 1	4	3.98	0.995	3.33333E-05
Row 2	4	3.95	0.9875	6.16667E-05
Row 3	4	3.98	0.995	3.33333E-05
Row 4	4	3.98	0.995	1E-04
Row 5	4	3.92	0.98	0.0002
Row 6	4	4	1	0
Row 7	4	4	1	0

ANOVA

Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.001238	6	0.000206	3.145454545	0.023238	2.572712
Within Groups	0.001375	21	6.55E-05			
Total	0.002611	27				

FIG. 7a

% Mortality of New Weed Seeds Over Control Wild Mustard



Treatment

FIG. 7b

YELLOW

NUTGRASS

Weed Seed: *Cyperus esculentus*

Treatment Date = 10/28/1999

Number of Seeds/Dish = 100

Treatment		Seed Germination Counts												1st Count at 8 Days												2nd Count at 12 Days				% Mortality Above Control
		Date of Count = 11/05/1999 Elapsed Time from Treatment = 8 Days						Date of Count = 11/09/1999 Elapsed Time from Treatment = 12 Days						1st Count at 8 Days				2nd Count at 12 Days												
		1st Count		2nd Count		1st Count		2nd Count		1st Count at 8 Days		2nd Count at 12 Days		1st Count at 8 Days		2nd Count at 12 Days														
Seed Age	Treatment Solution	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Mean	Rep 1	Rep 2	Rep 3	Rep 4	Mean	% Mortality Above Control		
NEW SEED	Control 0 ppm, 0% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%		
NEW SEED	0 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%		
NEW SEED	0 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%		
NEW SEED	500 ppm, 5% Emulsifier	0	0	0	0	0	0	0	5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	95%	-1%		
NEW SEED	500 ppm, 50% Emulsifier	0	0	0	0	0	0	0	2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	98%	-1%		
NEW SEED	1000 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%	-1%		
NEW SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%		
		Date of Count = 11/08/1999 Elapsed Time from Treatment = 11 Days																												
OLD SEED	Control 0 ppm, 0% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	
OLD SEED	0 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	
OLD SEED	0 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	
OLD SEED	500 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	
OLD SEED	500 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	
OLD SEED	1000 ppm, 5% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	
OLD SEED	1000 ppm, 50% Emulsifier	0	0	0	0	0	0	0	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	

NEW SEED No Significance

Anova: Single Factor

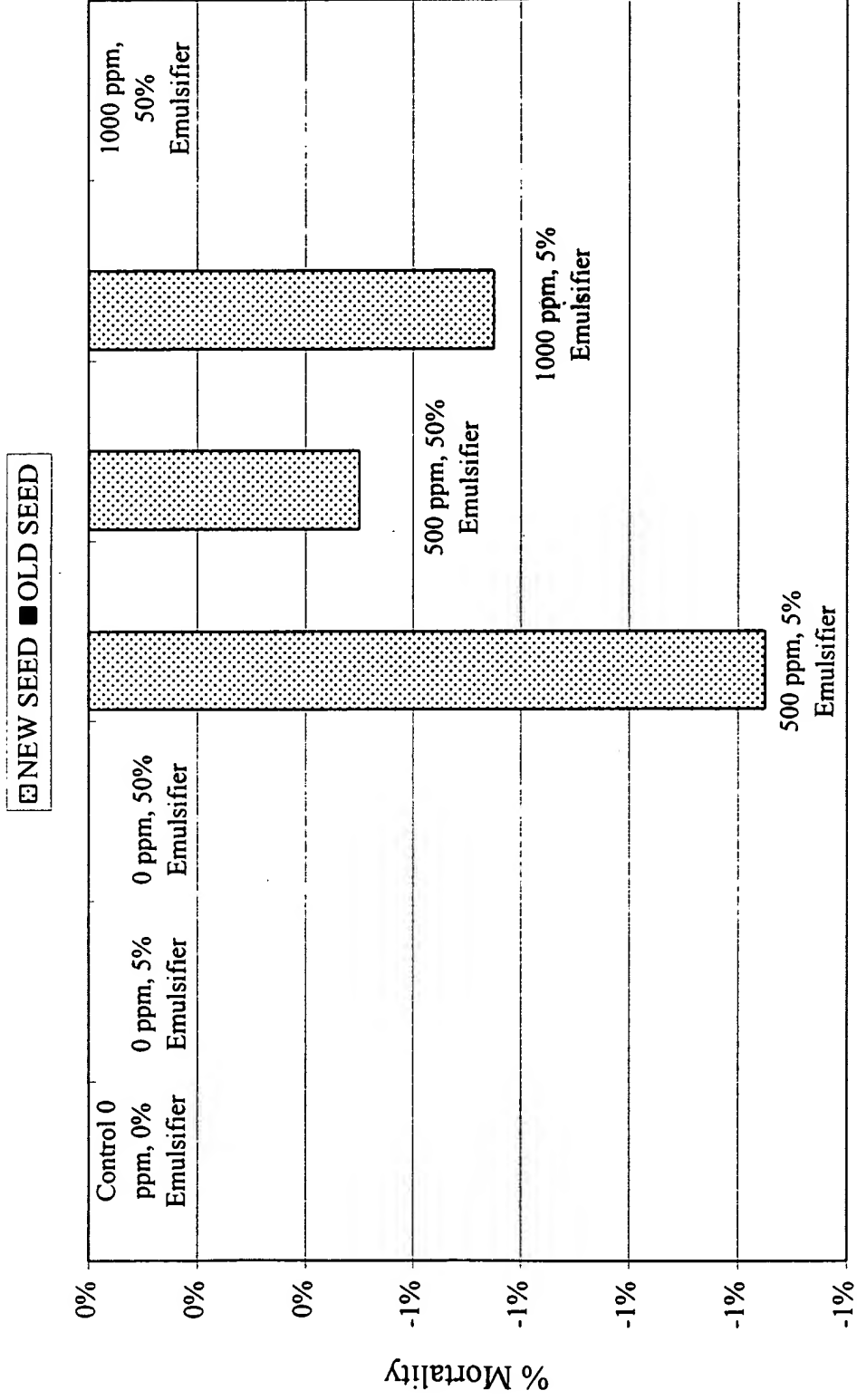
Groups	Count	Sum	Average	Variance
Row 1	4	4	1	0
Row 2	4	4	1	0
Row 3	4	4	1	0
Row 4	4	3.95	0.9875	0.000825
Row 5	4	3.96	0.99	1E-04
Row 6	4	3.97	0.9925	9.16607E-05
Row 7	4	4	1	0

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.0005629	6	9.381E-05	0.846838776	0.3464524	2.5727118
Within Groups	0.00245	21	0.0001167			
Total	0.0030129	27				

FIG. 8a

% Mortality of New Weed Seeds Over Control Yellow Nutgrass



Treatment

FIG. 8b

% Mortality of New Weed Seeds Over Control Barnyard Grass

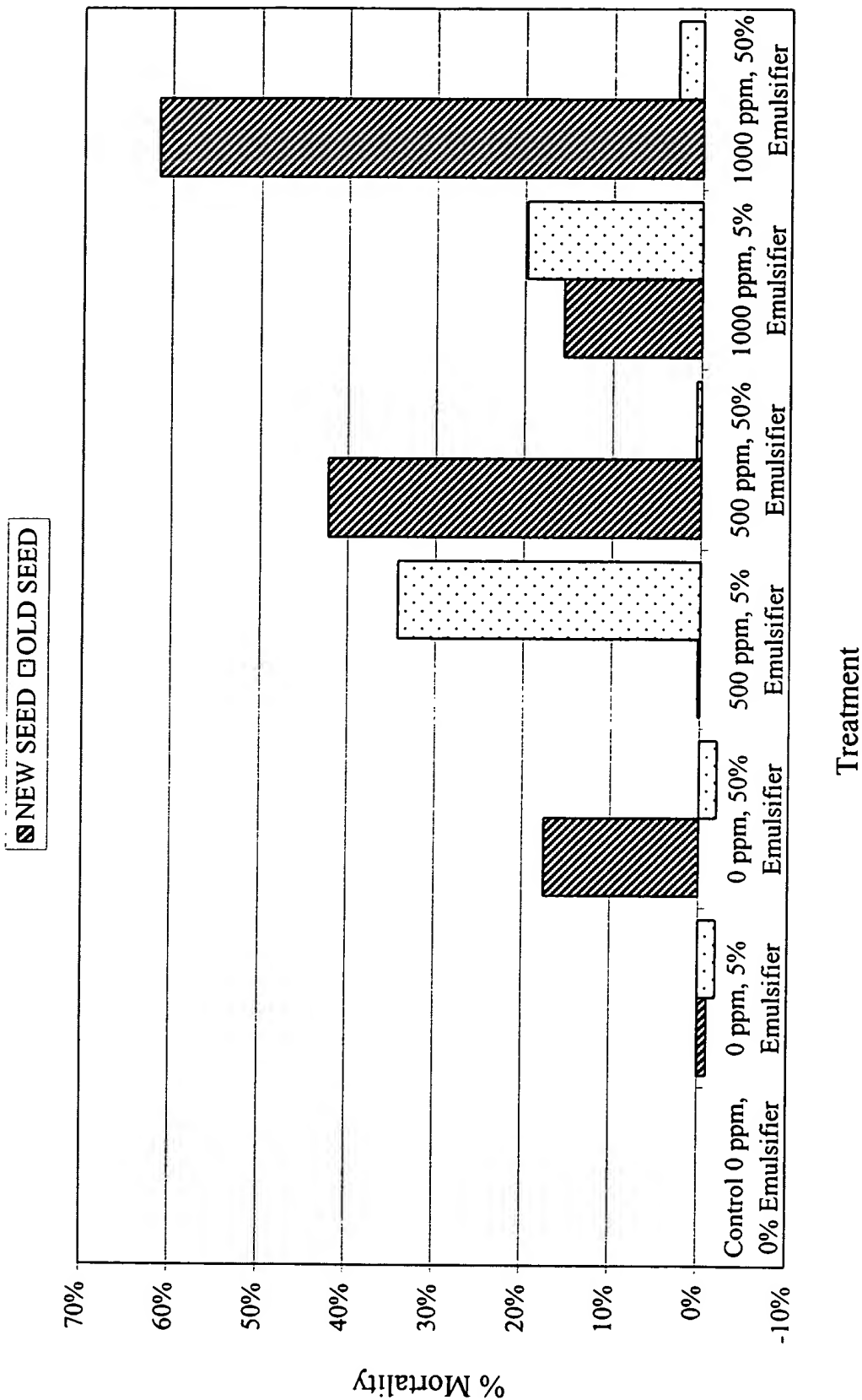


FIG. 10b

Number of Seeds/Dish = 100

SIGNIFICANT DIFFERENCE @ 99%

OLD SEED
Anova: Single Factor

SUMMARY		Count	Sum	Average	Variance
Groups	Row 1	4	3.88	0.965	3.33333E-06
	Row 2	4	3.62	0.905	0.000863333
	Row 3	4	3.86	0.965	0.000633333
	Row 4	4	4	1	0
	Row 5	4	3.87	0.9675	0.00425
	Row 6	4	3.89	0.9725	0.00425
	Row 7	4	4	1	0

ANOVA

ANOVA	SS	df	MS	F	P-value	F crit
Source of Vari						
Between	0.02221	6	0.00037	5.261931464	0.001861	3.811749
Within Gr	0.01605	21	0.000764			
Total		27				

SIGNIFICANT DIFFERENCE @ 99%

NEW SEED
Anova: Single Factor

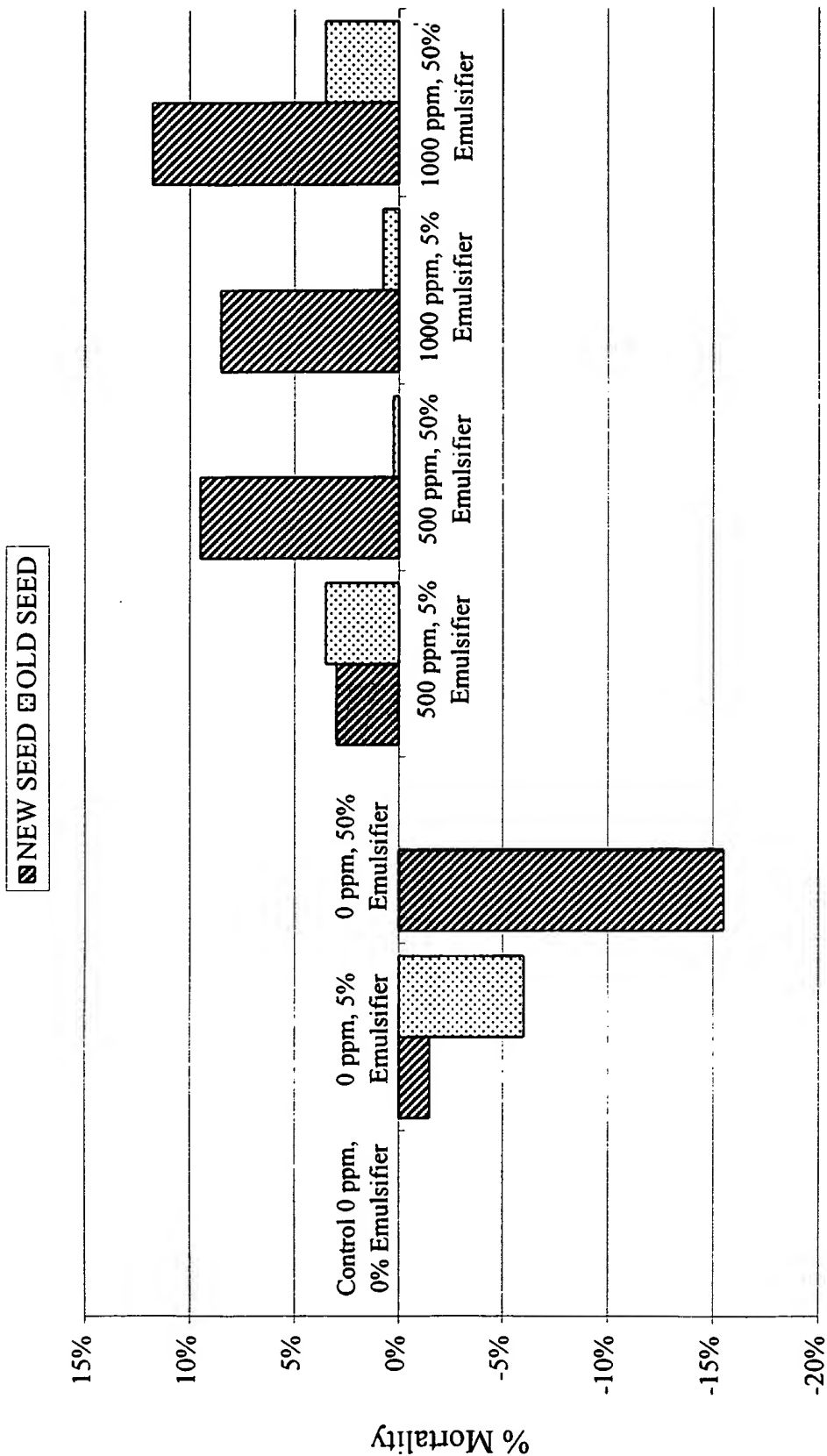
SUMMARY		Groups	Count	Sum	Average	Variance
	Row 1		4	3.5	0.875	0.0041
	Row 2		4	3.44	0.86	0.00240667
	Row 3		4	2.88	0.72	0.00313333
	Row 4		4	3.62	0.905	0.01176667
	Row 5		4	3.88	0.97	0.0002
	Row 6		4	3.84	0.96	0.00246667
	Row 7		4	3.97	0.9925	0.000225

ANOVA

ANOVA	Source of Variation	SS	df	MS	F	P-value	F crit
	Between Groups	0.20685	6	0.0344417	9.8970783	3.156E-05	3.8117491
	Within Groups	0.073075	21	0.0034788			
	Total	0.279925	27				

FIG. 9a

% Mortality of New Weed Seeds Over Control Yellow Sweet Clover



Treatment
FIG. 9b

Chloropicrin EC - Lab Tests for Weed Seed Mortality BARNYARD GRASS

Weed Seed: Echinochloa crusgalli		Seed Germination Counts										(% Mortality)									
		Treatment Date = 10/28/1999										Treatment Date = 11/09/1999									
		Number of Seeds/Dish = 100										Date of Count = 11/09/1999									
		Elapsed Time from Treatment = 8 Days										Elapsed Time from Treatment = 12 Days									
Seed Age	Treatment	1st Count										2nd Count									
		Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4
NEW SEED	Control 0 ppm, 0% Emulsifier	100	100	88	41	100	100	100	94	82	0%	0%	12%	59%	18%	0%	6%	0%	0%	6%	18%
NEW SEED	0 ppm, 5% Emulsifier	10	98	97	99	80	100	100	100	100	90%	2%	3%	1%	24%	20%	0%	0%	0%	5%	0%
NEW SEED	0 ppm, 50% Emulsifier	95	100	15	90	97	100	15	94	94	5%	0%	85%	10%	25%	3%	85%	6%	24%	18%	6%
NEW SEED	500 ppm, 5% Emulsifier	43	90	89	79	100	97	90	88	88	57%	10%	21%	25%	0%	3%	10%	12%	6%	0%	12%
NEW SEED	500 ppm, 50% Emulsifier	31	6	15	100	59	23	25	100	69%	94%	85%	0%	62%	41%	77%	75%	0%	48%	42%	0%
NEW SEED	1000 ppm, 5% Emulsifier	24	89	95	98	31	93	95	95	95%	95%	5%	2%	49%	69%	7%	5%	22%	16%	16%	5%
NEW SEED	1000 ppm, 50% Emulsifier	42	6	12	32	81	8	7	34	58%	94%	88%	68%	77%	19%	92%	93%	66%	68%	62%	6%
ANOVA		Date of Count = 11/08/1999																			
		Elapsed Time from Treatment = 11 Days																			
OLD SEED	Control 0 ppm, 0% Emulsifier	80	95	100	100	95	97	100	100	100	20%	5%	0%	0%	6%	3%	0%	0%	2%	0%	0%
OLD SEED	0 ppm, 5% Emulsifier	100	100	100	100	100	100	100	100	100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OLD SEED	0 ppm, 50% Emulsifier	97	93	99	100	100	100	100	100	100	3%	7%	1%	0%	3%	0%	0%	0%	0%	0%	0%
OLD SEED	500 ppm, 5% Emulsifier	50	93	95	9	50	93	95	95	17	50%	7%	5%	38%	50%	7%	5%	83%	36%	34%	5%
OLD SEED	500 ppm, 50% Emulsifier	99	98	89	92	100	100	95	95	95	1%	2%	11%	8%	6%	0%	5%	5%	3%	1%	5%
OLD SEED	1000 ppm, 5% Emulsifier	46	100	98	20	85	100	100	28	54%	0%	2%	80%	34%	15%	0%	0%	72%	22%	20%	0%
OLD SEED	1000 ppm, 50% Emulsifier	93	88	82	90	99	94	95	93	93	7%	12%	18%	10%	12%	1%	6%	5%	5%	3%	7%
ANOVA																					
		Elapsed Time from Treatment = 11 Days																			
OLD SEED	Control 0 ppm, 0% Emulsifier	80	95	100	100	95	97	100	100	100	20%	5%	0%	0%	6%	3%	0%	0%	2%	0%	0%
OLD SEED	0 ppm, 5% Emulsifier	100	100	100	100	100	100	100	100	100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OLD SEED	0 ppm, 50% Emulsifier	97	93	99	100	100	100	100	100	100	3%	7%	1%	0%	3%	0%	0%	0%	0%	0%	0%
OLD SEED	500 ppm, 5% Emulsifier	50	93	95	9	50	93	95	95	17	50%	7%	5%	38%	50%	7%	5%	83%	36%	34%	5%
OLD SEED	500 ppm, 50% Emulsifier	99	98	89	92	100	100	95	95	95	1%	2%	11%	8%	6%	0%	5%	5%	3%	1%	5%
OLD SEED	1000 ppm, 5% Emulsifier	46	100	98	20	85	100	100	28	54%	0%	2%	80%	34%	15%	0%	0%	72%	22%	20%	0%
OLD SEED	1000 ppm, 50% Emulsifier	93	88	82	90	99	94	95	93	93	7%	12%	18%	10%	12%	1%	6%	5%	5%	3%	7%
ANOVA																					
		Elapsed Time from Treatment = 11 Days																			
OLD SEED	Control 0 ppm, 0% Emulsifier	80	95	100	100	95	97	100	100	100	20%	5%	0%	0%	6%	3%	0%	0%	2%	0%	0%
OLD SEED	0 ppm, 5% Emulsifier	100	100	100	100	100	100	100	100	100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OLD SEED	0 ppm, 50% Emulsifier	97	93	99	100	100	100	100	100	100	3%	7%	1%	0%	3%	0%	0%	0%	0%	0%	0%
OLD SEED	500 ppm, 5% Emulsifier	50	93	95	9	50	93	95	95	17	50%	7%	5%	38%	50%	7%	5%	83%	36%	34%	5%
OLD SEED	500 ppm, 50% Emulsifier	99	98	89	92	100	100	95	95	95	1%	2%	11%	8%	6%	0%	5%	5%	3%	1%	5%
OLD SEED	1000 ppm, 5% Emulsifier	46	100	98	20	85	100	100	28	54%	0%	2%	80%	34%	15%	0%	0%	72%	22%	20%	0%
OLD SEED	1000 ppm, 50% Emulsifier	93	88	82	90	99	94	95	93	93	7%	12%	18%	10%	12%	1%	6%	5%	5%	3%	7%

NEW SEED SIGNIFICANT DIFFERENCE @ 99%

OLD SEED No Significance

ANOVA: Single Factor

ANOVA: Single Factor

SUMMARY				
Groups	Count	Sum	Average	Variance
Row 1	4	0.24	0.06	0.0072
Row 2	4	0.2	0.05	0.01
Row 3	4	0.94	0.235	0.1687
Row 4	4	0.25	0.0625	0.003225
Row 5	4	1.93	0.4825	0.13075633
Row 6	4	0.86	0.215	0.10036667
Row 7	4	2.7	0.675	0.12016667

SUMMARY				
Groups	Count	Sum	Average	Variance
Row 1	4	0.08	0.02	0.0006
Row 2	4	0	0	0
Row 3	4	0	0	0
Row 4	4	1.45	0.3625	0.140225
Row 5	4	0.1	0.025	0.00083333
Row 6	4	0.87	0.2175	0.117225
Row 7	4	0.19	0.0475	0.000891667

ANOVA					
Source of Variation	SS	df	MS	F	P-value
Between Groups	1.3890357	6	0.231508	2.96868628	0.0281763
Within Groups	1.62125	21	0.0772024		
Total	3.0102857	27			

ANOVA					
Source of Variation	SS	df	MS	F	P-value
Between Groups	0.465643	6	0.077607	2.110372725	0.095145
Within Groups	0.778725	21	0.037082		
Total	1.244368	27			

FIG. 10a

Chloropicrin EC - Lab Tests for Weed Seed Mortality

BINDWEED

Weed Seed: *Convolvulus arvensis*

Treatment Date = 10/28/1999

Number of Seeds/Dish = 100

Seed Age		Seed Germination Counts												(% Mortality)												% Mortality Above Control					
		Date of Count = 11/05/1999						Date of Count = 11/09/1999						Date of Count = 11/09/1999						Date of Count = 11/09/1999											
		Elapsed Time from Treatment = 8 Days						Elapsed Time from Treatment = 8 Days						Elapsed Time from Treatment = 12 Days						Elapsed Time from Treatment = 12 Days											
Treatment		1st Count						2nd Count						1st Count at 8 Days						2nd Count at 12 Days											
		Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4	Rep 1	Rep 2	Rep 3	Rep 4		Rep 1	Rep 2	Rep 3	Rep 4	Mean
NEW SEED		Control 0 ppm, 0% Emulsifier	15	20	23	28	80	84	83	78	85	80	77	72	79	71	73	72	20	16	17	22	20	16	17	22	20	16	17	22	19%
NEW SEED		0 ppm, 5% Emulsifier	16	22	23	14	29	29	27	18	84	78	77	86	81	71	73	82	71	71	73	82	71	71	73	82	71	71	73	74%	
NEW SEED		0 ppm, 50% Emulsifier	19	15	15	16	51	63	55	65	81	85	85	84	84	49	37	45	49	37	45	35	49	37	45	35	49	37	42%		
NEW SEED		500 ppm, 5% Emulsifier	12	16	14	7	54	63	55	65	88	84	86	93	88	46	37	45	46	37	45	35	46	37	45	35	46	37	41%		
NEW SEED		500 ppm, 50% Emulsifier	25	13	22	17	62	13	74	56	75	87	78	83	81	38	87	90	38	87	90	44	87	87	90	44	87	87	49%		
NEW SEED		1000 ppm, 5% Emulsifier	8	15	5	12	14	20	10	16	92	85	95	88	90	86	80	84	86	80	80	84	86	80	80	84	86	80	85%		
NEW SEED		1000 ppm, 50% Emulsifier	5	8	3	4	7	15	7	10	95	92	97	96	95	93	85	90	93	85	85	90	93	85	85	90	93	85	90%		
OLD SEED		Control 0 ppm, 0% Emulsifier																													
OLD SEED		0 ppm, 5% Emulsifier																													
OLD SEED		0 ppm, 50% Emulsifier																													
OLD SEED		500 ppm, 5% Emulsifier																													
OLD SEED		500 ppm, 50% Emulsifier																													
OLD SEED		1000 ppm, 5% Emulsifier																													
OLD SEED		1000 ppm, 50% Emulsifier																													

NEW SEED

Anova: Single Factor

SIGNIFICANT DIFFERENCE @ 99%

Groups	Count	Sum	Average	Variance
Row 1	4	6.75	0.1675	0.00075833
Row 2	4	2.97	0.7425	0.00275833
Row 3	4	1.86	0.415	0.00438667
Row 4	4	1.83	0.4075	0.00391667
Row 5	4	1.25	0.4675	0.070625
Row 6	4	3.4	0.85	0.00173333
Row 7	4	3.51	0.8025	0.001425

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1.6960214	6	0.2815038	23.2487464	2.996E-08	3.8117491
Within Groups	0.254275	21	0.0121083			
Total	1.9422964	27				

FIG. 11a

% Mortality of New Weed Seeds Over Control Bindweed

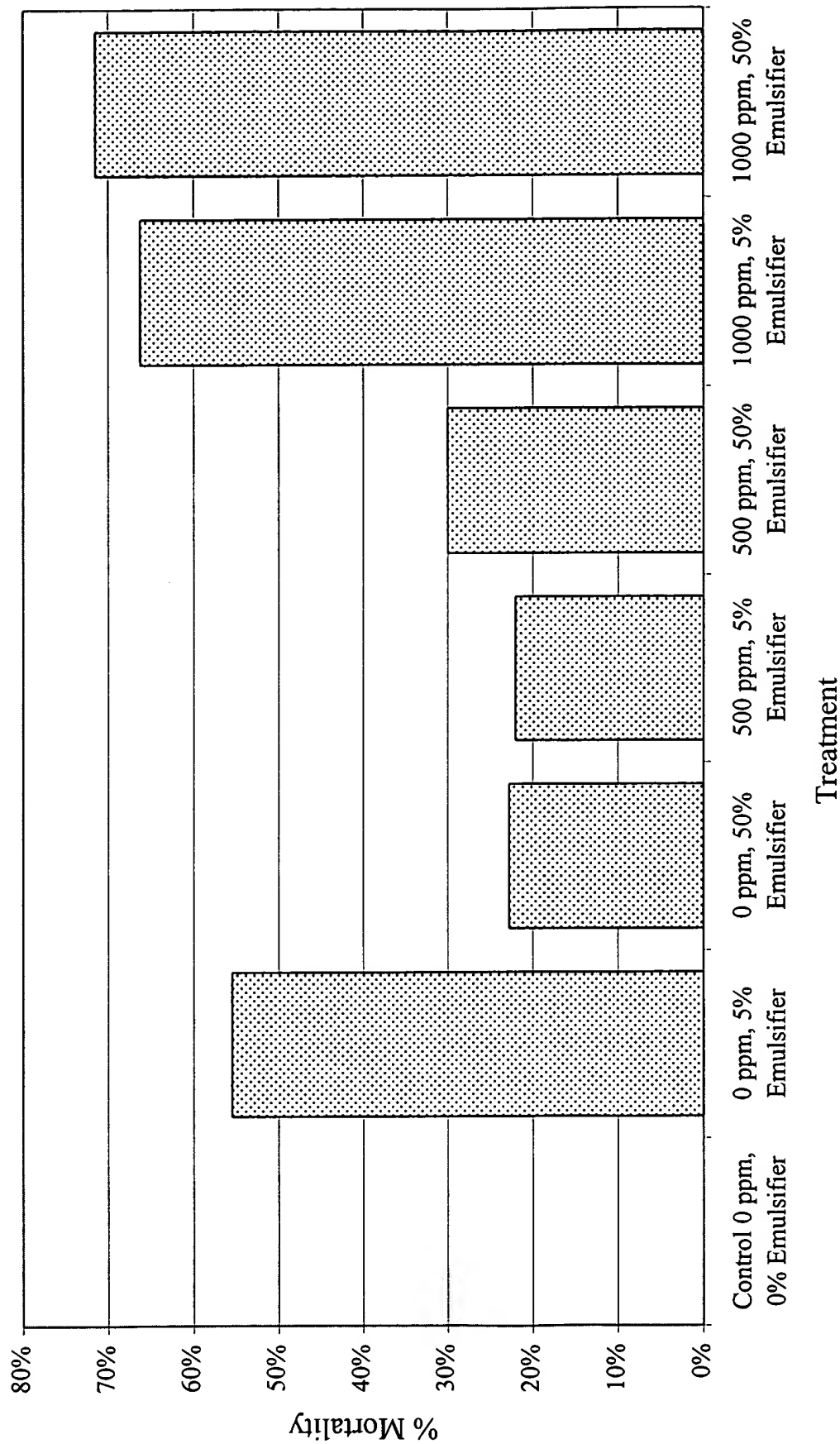


FIG. 11b